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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/828,293

Applicant(s)

CALDWELL, JAMES D.

Examiner

Donald Heckenberg

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on February 19, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 19 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1722

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 10-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly presented claims 10 and 15 recite "inserting said inner male mold element within said interior region of said outer female mold element...exclusive of the application of a vacuum that would draw said inner male mold element toward said female mold element[.]" This is a negative limitation which must have explicit support in the originally filed disclosure, the mere absence of a positive recitation is not basis for exclusion. See MPEP § 2173.05(i). The originally filed disclosure does not explicitly recite that the male mold element is inserted into the female mold element without the application

Art Unit: 1722

of a vacuum. As such the claims are not enabled by the originally filed disclosure, and thus present new matter.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 15 set forth that the male mold member is inserted into the female mold element so as to cause compression of the inner male mold element against the female mold element without the application of vacuum. As noted above in the rejection under 35 U.S.C. 112, first paragraph, there is no support in the originally filed disclosure for this limitation. Claim 14 recites that "a vacuum that augments outflow through [the] channel of resin and removal of air pockets from the mold cavity, as said male mold element is inserted within the interior region of the female mold element." Written as such, claim 14 contradicts claims 10, which provides that no vacuum is

Art Unit: 1722

applied to the male and female mold elements. Similarly, claim 15 recites the application of vacuum in step (h) contradicts the recitation that no vacuum is applied to male and female mold elements. Therefore, the scope of the claims 10-15 is indefinite. Further, it is unclear how the process as a whole in claims 10 and 15 is to operate given that there is no support in the disclosure for the step of not applying vacuum as described above.

In order to evaluate claims 10-15 on their merits below, it will be assumed that what was intended was a two step process, wherein first the male mold element is inserted into the female mold element, and then vacuum is applied. Accordingly, claims 10 and 15 will be interpreted as to recite the first step, simply that the male mold element is inserted into the female mold element.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1722

6. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 10-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wejrock et al. (U.S. Pat. No. 5,256,366; previously of record) in view of Krauter (U.S. Pat. No. 4,759,893).

Wejrock teaches a method of manufacturing an article comprising the steps of:

providing an outer female mold element (4) having an interior space associated with a first surface of the article;

providing an inner male mold element (2) having an exterior surface associated with a second surface of the article, and being sized to be placed within an interior region of the female mold element so as to define a mold assembly forming a mold cavity (10) between the interior surface of the female mold element and the exterior surface of the male mold element (see

Art Unit: 1722

figs. 4 and 10), the male mold element having a perimeter sidewall that is adapted to extend a vertical distance alongside, but spaced apart from, a mutually facing interior sidewall of the female mold element when the male mold element is inserted into the female mold element (see figs. 4 and 9);

placing the structural preform on a member of the mold assembly (col. 5, ln. 66 - col. 5, ln. 2);

introducing resin into the interior region of the female mold element (col. 5, lns. 3-4);

inserting the male mold element within the interior region of the female mold element so as to form therewith a mold cavity of the mold assembly, and also a generally continuous narrow annular channel that is contiguous with the mold cavity, through which air is vented and into which resin introduced into the cavity is allowed to expand from the mold cavity (see figs. 4, 9; and col. 5, lns. 15-58), as such, the cavity is "unsealed" in that resin can be drawn through the contiguous channel out of the mold cavity;

and after curing of the resin, removing the mold assembly to provide the resin transfer molded article (col. 5, lns. 59-61).

Wejrock further teaches the male mold element and the female mold element to be located by means of a plurality of

Art Unit: 1722

indexing tabs (50, 52) that engage the male mold element and the female mold element (see col. 5, lns. 15-19). Wejrock teaches the male mold placement step prior to the application of a vacuum (see column 5, lns. 19-25).

Wejrock also teaches coupling the male mold element and the female mold element with an auxiliary closure which applies a vacuum (see col. 5, lns. 26-40).

Wejrock fails to teach the placement of the preform within the interior region of the female mold element, instead teaching the placement of the preform on the male mold element (col. 4, ln. 66 - col. 5, ln. 2).

Krauter teaches a resin transfer molding process using male (7) and female (1) mold elements, wherein the preform and the resin material is placed in the female mold element prior to the male mold member being inserted in the female mold member (see figs. 3-4, and col. 4, lns. 1-7) for the purpose of achieving a uniform flow of the resin material through the fibrous preform (see col. 1, lns. 61-66).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the method of Wejrock as such to have placed the preform in the female mold element rather than the male mold element because



Art Unit: 1722

this alternative process would aid in achieving uniform flow of resin through the preform as suggested by Krauter.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wejrock modified by Krauter as applied to claims above, and further in view of Herbert, Jr. (US Pat. No. 5,087,193).

Wejrock and Krauter teach the article manufacturing process as described above. Wejrock and Krauter fail to teach the process to include a step of removing a band of cured resin formed along an edge of the molded article.

Herbert teaches a resin transfer molding process wherein undesired flash portions of the molded article are removed subsequent the molding steps for the propose of obtaining the shape of the article desired (see col. 8, lns. 15-25).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the process of Wejrock and Krauter to further comprise a step of removing unwanted flash portions of the molded article because this would have allowed the molded article to be shaped as desired for the final product as suggested by Herbert.

Art Unit: 1722

9. Applicant's arguments filed on February 19, 2003 have been fully considered, but are not persuasive.

Applicant notes that the Wejrock seals that male mold element against the female mold element and draws the male mold against the female mold element by the use of a vacuum. Applicant therefore argues that the present claims are different in that no vacuum is used as described in step (e) of claim 10 and step (f) of claim 15.

As set forth above in the rejection under 35 U.S.C. 112, first and second paragraph, the scope of this limitation is unclear. Claim 14 explicitly states that a vacuum is applied to mold. Applicant's argument seems to suggest that no vacuum acts on the male and female molds, but this is not possible with the limitation described in claim 14. As set forth above, as best can be interpreted from the disclosure, the claim has been read as if reciting that the male mold is placed in the female mold prior to the application of a vacuum. Wejrock teaches such a process, as described at column 5, lines 15-25. As such, Wejork in combination with Krauter, renders the claim obvious as described above.

Applicant seems also be arguing that Wejrock uses a vacuum to "seal" the molding cavity, which is different than the instantly claimed invention. As described above, Wejrock does

Art Unit: 1722

not "seal" the molding cavity in the sense that resin can be drawn out of the molding cavity. This seems to be how the term is construed in the claims and disclosure of the instant application. A different interpretation of the term would raise further problems with the limitation described in claim 14 and step (h) of claim 15, as a vacuum is applied to the assembly, which in turn would "seal" the mold in the same sense as Wejrock does.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


Art Unit: 1722

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action, and 703-872-9311 for responses to final actions. The unofficial fax phone number is (703) 305-3602.

  
Donald Heckenberg  
April 23, 2003

  
JAMES P. MACKEY  
PRIMARY EXAMINER  
4/28/03